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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/818,715 | 03/27/2001 | Kwok Pun Lee | US010071 | 1324 |

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| EXAMINER | |
|---|---|
| HUYNH, THU V | |
| **ART UNIT** | **PAPER NUMBER** |
| 2178 | |

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/818,715 | LEE ET AL. | |
| | Examiner | Art Unit | |
| | Thu V. Huynh | 2178 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This action is responsive to communications: amendment filed on 08/25/05 to application filed on 03/27/2001.

2. Applicants' amendment providing new affidavit filed on 08/25/05. The affidavit under 37 CFR 1.131 is sufficient to overcome the Maloney reference (2002/0122057, filed 03/02/01). The applicants' amendment changes the scope of the applications' claims so that the filing date of the claims is prior to 03/02/01 instead of 03/27/01.

3. The rejections of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Maloney in view of Clunie and Claussen, have been withdrawn as necessitated by the amendment.

4. The rejections of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Clunie, "DICOM SR Meets XML" and "SR Object Model (SR-OM)", pages 1-22, NEMA SR Workshop 03/29-30/2000, have been remained.

5. The rejections of claims 9-11 under 35 U.S.C. 103(a) as being unpatentable over Clunie as applied to claim 8 above and further in view of Claussen et al., US 6,732,330, filed 09/1999, has been remained.

6. The rejections of claims 12-14 under 35 U.S.C. 103(a) as being unpatentable over Clunie in view of Claussen and further in view of Maloney, have been withdrawn as necessitated by the amendment.

7. Claims 1-14 are pending in the case. Claims 1 and 8 are independent claims.

*Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. **Claims 1-7 are rejected under 35 U.S.C. 102(a) as being anticipated by Clunie (herein after Cluniel), "DICOM Structured Reporting", copyright 2000, pages 7-13, 31, 237, 306-314, 325-344.**

**Regarding independent claim 1**, Cluniel teaches the steps of:

- mapping each DICOM attribute of a plurality of DICOM attributes in the DICOM document into a corresponding XML element of a plurality of XML elements (Cluniel, pages 31, 308-311, 344; transforming a DICOM-SR document into XML document by mapping every attribute of a DICOM into an equivalent XML element tag); and
- outputting each XML element of the plurality of XML elements to the XML document, in a format that conforms to an XML document type-definition of the XML document (Cluniel, pages 31, 308-311, 344; converted XML document obeys to its DTD).

**Regarding claim 2**, which is dependent on claim 1, Cluniel teaches wherein outputting each XML element includes formatting the XML element via one or more XSLT templates to

conform to the XML document-type-definition (Cluniel, pages 237, 307, 312, 340-342, XSLT is used to format the XML document).

**Regarding claim 3**, which is dependent on claim 2, Cluniel teaches wherein the formatting of the XML element is via an XSLT engine (Cluniel, pages 237, 307, 312, 340-342, XSLT Transform engine (page 344)).

**Regarding claim 4**, which is dependent on claim 2, Cluniel teaches wherein the one or more XSLT templates correspond to one or more DICOM Information Entities (Cluniel, pages 329-331; parsing a DICOM document to transcode the DICOM SR document into XML; applying XSLT template to the XML document and rendering the XML document rendered including patient information).

**Regarding claim 5**, which is dependent on claim 1, Cluniel teaches the mapping of each DICOM attribute into a corresponding XML element is independent of the XML document-type-definition of the XML document (Cluniel, pages 31, 308-311, 344; transforming a DICOM-SR document into XML document by mapping every attribute of a DICOM into an equivalent XML element tag before applied an DTD mechanism).

**Regarding claim 6**, which is dependent on claim 1, Cluniel teaches:

- parsing each DICOM attribute to segregate a DICOM data type, and a DICOM codeID from the DICOM attribute (Cluniel, pages 308-309 and 329-330; parser used

to parse a DICOM document, which includes DICOM attributes, such as data type "(0040,0040)<PNAME>" and codeID "(0008,0100)<000555>" in order to convert the DICOM into XML), and wherein the mapping includes:

- assigning the DICOM codeID to a first attribute of the corresponding XML element (Cluniel, 308-310, 330, teaches "Alternative XML Encoding issues", <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". The <codevalue> element is an attribute of <codesequence> element that has value is "000555"); and
- mapping the DICOM data type to a corresponding value type of the corresponding XML element (Cluniel, pages 308; mapping "Value Type <PNAME>" to "<valuetype>PNAME</valuetype>"); and
- assigning the corresponding value type to a second attribute of the corresponding XML element (Cluniel, pages 308-310, 330, teaches "Alternative XML Encoding issues" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". The <valuetype> element is an attribute of <contentiem> element that has value is "PNAME").

**Regarding dependent claim 7**, which is dependent on claim 6, Cluniel teach the limitations of claim 6 as explained above. Refer to the rationale relied to reject claim 7. Cluniel

teaches parsing the DICOM attributes of DICOM SR and mapping such attributes into attribute of the corresponding XML elements as explained above.

### *Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> (b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. **Claim 8 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie, "DICOM SR Meets XML" and "SR Object Model (SR-OM)", pages 1-22, NEMA SR Workshop 03/29-30/2000.**

**Regarding independent claim 8**, Clunie teaches the steps of:

- a DICOM parser that is configured to provide a plurality of DICOM attributes from a DICOM data file (Clunie, pages 11-13; parser used to parse a DICOM document in order to convert the DICOM document to XML document); and
- an XML formatter that is configured to provide a plurality of XML elements corresponding to the plurality of DICOM attributes (Clunie, pages 11-13; transcoding into XML document).

Clunie does not explicitly dislose XML formatter, operably coupled to the DICOM parser. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have included the XML formatter coupled to the DICOM parser in a system, since the DICOM parser and XML formatter is connect together in the process.

12. **Claims 9-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie as applied to claim 8 above and further in view of Claussen et al., US 6,732,330, filed 09/1999.**

**Regarding dependent claim 9**, which is dependent on claim 8, Clunie teaches the limitations of claim 8 as explained above. Clunie does not explicitly disclose wherein the XML formatter is configured to provide the plurality of XML elements in a format that conforms to an XML document-type-definition of an XML document comprising the plurality of XML elements.

Claussen teaches outputting each XML element of the plurality of XML elements to the XML document in a format that conforms to an XML document-type-definition of the XML document (Claussen, col.1, lines 30-41 and col.2, lines 1-5; eXentsible Stylesheet Language (XSL) templates used to formatting and manipulating XML of any custom DTD).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Claussen and Clunie to provide a format that conforms to an XML document-type-definition (DTD) of the XML, since XSL/XSLT used to format XML according with a DTD associated with it (Claussen, col.1, lines 30-42), as well as "to render information for display" (Maloney disclosed in page 4, paragraph 45). It is noted that XSL used

to transform/format one XML document to another XML document that conform to a different DTD was standard and well known in the art at the time the invention was made.

**Regarding dependent claim 10**, which is dependent on claim 9, Clunie and Claussen teach the limitations of claim 9 as explained above. Refer to the rationale relied to reject claim 9, the limitation "wherein the XML formatter includes an XSLT engine that is configured to provide the plurality of XML elements based on one or more XSLT stylesheet templates that conform to the XML document-type-definition" is included. The rationale is incorporated herein.

**Regarding dependent claim 11**, which is dependent on claim 10, Clunie and Claussen teach the limitations of claim 10 as explained above. Clunie does not explicitly disclose wherein the one or more XSLT stylesheet templates correspond to one or more DICOM Information Entities. However, Clunie teaches parsing plurality of DICOM attributes from a DICOM data file in order to convert the DICOM data file to an XML data file, wherein the XML data file is rendered including DICOM Information Entities (Clunie, pages 11-13, Patient information).

Claussen teaches XSL/XSLT template used to formating an XML document in a format that conform to an author defined DTD (Claussen, col.1, lines 30-41 and col.2, lines 1-5.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Claussen and Clunie to use XSL/XSLT template correspond to DICOM Information Entities, since this would have allowed rendering the XML including DICOM Information Entities.

13. **Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie in view of Claussen as applied to claim 9 above and further in view of Clunie (herein after Cluniel), "DICOM Structured Reporting", copyright 2000, pages 7-13, 31, 237, 306-314, 325-344.**

**Regarding dependent claim 12**, which is dependent on claim 9, Clunie and Claussen teach the limitations of claim 9 as explained above. Clunie does not explicitly disclose an XML builder, operably coupled between the DICOM parser and the XML formatter, that is configured to effect a direct mapping of each DICOM attribute of the plurality of DICOM attributes into a corresponding XML element of the plurality of XML elements independent of the XML document-type-definition.

Cluniel teaches mapping each DICOM attribute of a plurality of DICOM attributes in the DICOM document into a corresponding XML element of a plurality of XML elements and outputting each XML element of the plurality of XML elements to the XML document in a format without using DTD (Cluniel, pages 31, 308-311, 344; transforming a DICOM-SR document into XML document by mapping every attribute of a DICOM into an equivalent XML element tag before applied an DTD mechanism).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combine Cluniel into Clunie and Claussen to include an XML builder coupled between Clunie and Claussen's DICOM parser and the XML formatter to map DICOM attributes to XML elements before transforming/formatting to a specific XML using

XSL, since this would allow the XML elements to transforming or formatting into any custom XML using XSL/XSLT that is conformed to any author defined DTD.

**Regarding dependent claim 13**, which is dependent on claim 12, Clunie specifically teaches:

- parsing each DICOM attribute to segregate a DICOM data type, and a DICOM codeID from the DICOM attribute (Clunie, pages 4-5 and 11-13; parser used to parse a DICOM document, which includes DICOM attributes, such as data type "(0x0040,0xa040)<PNAME>" and codeID "(0x0008,0x0100)<000555>" in order to convert the DICOM into XML), and wherein the mapping includes:
- assigning the DICOM codeID to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 6-10, the <codevalue> element is an attribute of <codesequence> element that has value is "000555"); and
- mapping the DICOM data type to a corresponding value type of the corresponding XML element (Clunie, pages 4-5; mapping "Value Type <PNAME>" to "<valuetype>PNAME</valuetype>"); and
- assigning the corresponding value type to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and

<relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 1 and 12, the <valuetype> element is an attribute of <contentiem> element that has value is "PNAME").

Clunie does not explicitly disclose first and second attributes. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign DICOM codeID and value type to first and second attributes of the corresponding XML.

**Regarding claim 14**, which is dependent on claim 13, refer to the rationale relied to reject claim 14. Clunie teaches parsing the DICOM attributes of DICOM SR and mapping such attributes into attribute of the corresponding XML elements as explained above.

It would have been obvious to a person ordinary skill in the art at the time the invention was made to have includes parsing and mapping steps for a DICOM attribute value, since this would have allowed converting DICOM with any attributes into XML. As discussed in claim 13 above, Clunie does not explicitly disclose third attribute. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign DICOM attribute value to a third attribute of the corresponding XML.

***Response to Amendment***

14. The affidavit filed on 08/25/05 under 37 CFR 1.131 is sufficient to overcome the

Maloney reference (2002/0122057). It is notes that applicants must keep the three files, "sr-sample-spec.dat", "sr-sample-spec(raw).xml" and "sr-sample-spec.xml" as mentioned in the affidavit for retrieving and presentation anytime when needed if this case is patented.

### *Response to Arguments*

15. Applicant's arguments filed on 08/25/05 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that "two 1.131 included in Appendixes Exhibit B. Declarations clearly show a reduction to practice of the Declarations under and B herein in support of Exhibit B. Exhibit B together with the C.F.R. 1.131 inventions protected by the currently pending claims prior to the March 2, 2001 filing date of Maloney"

Examiner agrees. However the Cluniel teaches the limitations of Maloney as explained in the rejection above. It is noted that applicants do not argue anything for claims 8 and 9-11. Therefore, such claims remain rejected.

### *Conclusion*

16. Applicant's amendment providing new affidavit that changes the scope of the applications' claims so that the filing date of the claims is prior to 03/02/01 instead of 03/27/01. Therefore, applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu V. Huynh whose telephone number is (571) 272-4126. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVH
November 03, 2005

William L. Bashore
WILLIAM BASHORE
PRIMARY EXAMINER
11/7/2005